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Disclosure Statement

Financial: Caleb is an employee of The Stepping Stones Group and receives compensation for his position.

Non-Financial: Caleb has no other non-financial relationship to disclose at this time.

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A little bit about me...

Undergraduate and Graduate – Indiana University of Pennsylvania
In the field for nine years – working specifically with students with Autism
Areas of interest- AAC, mentoring, high school transitions to vocational School and CF mentor
AT Coordinator – Brennen School

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Learner Outcomes

- Describe methods to assess students for AAC needs
- Explain how to do an AAC Evaluation
- Explain implementation of AAC and goal writing for AAC

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Introduction

- Power of AAC
- <https://www.youtube.com/watch?v=6peRKn2x57A>
- Guess the stats game


https://www.asha.org/practice-portal/professional-issues/augmentative-and-alternative-communication/#collapse_1

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Lay of the land

- | | | |
|--|--|-------------------------------|
| ❖ Basic overview – get everyone on the same page | ❖ Four Domains of Communicative Competence by Janice Light | ❖ Trialing systems |
| ➢ Myth/Fact chart | ❖ Ability level continuum by Tobii/Dynavox | ❖ Goal and IEP considerations |
| ➢ Benefits to using AAC | ❖ Assessments | ❖ Collaboration |
| ➢ Definitions | ❖ SETT (organization for student strengths) | ❖ Intervention |
| ➢ ASHA's statement on the role of a school based SLP and AAC | | |

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Basic review and definitions

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Clearing up some Myths

- AAC will not keep an individual from using natural speech
- AAC will have a positive effect on speech production
- AAC enhances an individuals ability to communicate effectively and independently

ASHA-‘ The currently accepted evidence suggests that there are no specific prerequisites (e.g., age, cognitive, linguistic, motor) for getting started with AAC. A number of AAC options are available to begin the intervention process.’

<https://www.asha.org/njc/aac/#:~:text=The%20currently%20accepted%20evidence%20suggests,to%20begin%20the%20intervention%20process.>

<https://download.mytobidynavox.com/MyTobiDynavox/td-myths-aac-and-speech.pdf>

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Benefits to AAC

- Increases receptive and expressive language skills
- Allows for more successful social interactions (develop friendships, etc.)
- Increase in successful communication exchanges = decrease in challenging behaviors
- Creates empowerment
- Increases self esteem
- Improves Overall Quality of Life
- AND MORE!

“Stages of development in AAC Competence,” By
Tina Becker MS CCC-SLP
(Speechpathology.com)

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Basic AAC review – definitions

- Augmentative communication – A system/device that supplements natural speech.
Ex. Amplifier to increase speech production
- Alternative Communication – a system/device to replace natural speech
Ex. Speech generating device
- AAC System - Organized set of components that work together in a strategic way to successfully meet the communication needs in a variety of contexts
- AAC Device – physical object or tool that assists a person to communicate

<https://www.assistiveware.com/learn-aac/what-is-aac/>
<https://therapyworks.com/blog/language-development/what-is-aac/>

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Basic AAC review – definitions

Unaided vs Aided Communication



Unaided communication - – do not use any physical tool beyond the body.
Examples: body language, facial expressions, gestures, signs, vocalizations, etc.

Aided communication – require some type of tool (high/low/no tech)

Examples: physical object exchange, picture exchange, communication boards, tablet, single message button, etc.



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Basic AAC review – definitions

No Tech, Low tech, High tech

No Tech – anything that does not need a battery. Examples: picture exchange, objects, communication boards, etc.

Low Tech – simple electronic devices. Example: One hit message buttons, GoTalks, etc.

High tech – complex electronic devices. Example: Dedicated devices/tablets (NovaChat, ACCENT, Proloquo2go, etc.)

<https://www.assistiveware.com/learn-aac/what-is-aac/>
<https://therapyworks.com/blog/language-development/what-is-aac/>

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	Advantages	Disadvantages
No/Low Tech	<ul style="list-style-type: none"> • Can help facilitate early implementation of AAC • Low cost • Portability 	<ul style="list-style-type: none"> • limited vocabulary • Difficulty with communicating complex thoughts/ideas • Heavy reliance on communication partners • underestimation of the AAC user's abilities
High Tech	<ul style="list-style-type: none"> • Limitless vocabulary • Auditory and visual feedback • Allows communication from a distance • Easier to teach language on the fly 	<ul style="list-style-type: none"> • Cost • Technology will break or grow outdated


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Basic AAC review – definitions

<p><u>Static/fixed</u></p> <ul style="list-style-type: none"> • Symbols remain in the same fixed location • Limited amount of messages • Some may have multiple fixed pages <p>Example: communication board</p>	<p><u>Dynamic/Hybrid</u></p> <ul style="list-style-type: none"> • Selection of a symbol may navigate the user to a new page of symbols • Unlimited amount of messages • Some have both static and dynamic components <p>Example: Tablets (Dynavox, GoTalk APP, etc.)</p>
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<https://www.assistiveware.com/learn-aac/what-is-aac/>
<https://therapynworks.com/blog/language-development/what-is-aac/>

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Common systems on the market

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Tobii/Dynavox <https://us.tobiidynavox.com/>

- Tablets Available: I-Series; TD Pilot; EM-12; TD I-110; and SC Tablet
- Apps for the tablets:
 Snap Scene – Scene based display with language
 TD Talk- text-to-speech app
 TD snap – language based
 Communicator 5 – designed for individuals that are literate
 Sensory Guru Eye-FX/look to learn/gaze view/Gaze point- eye gaze software
- Accessories – Cases, keyguards, Shoulder straps, travel bags, chargers, adjustable bases, mounts, kickstands, eye tracker monitors, stands, External amplifier, etc.
- Snap brackets; communication boards, picture symbols

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Prentke Romich Company(PRC)/Saltillo <https://www.prc-salttillo.com/>

- Tablets available:
 NovaChat – sentence structure/word prediction
 ACCENT – motor planning
 Via Pro/PRIO-mini/TouchChatExpress 8 – iPods/iPad with Touchchat/Words for Life
- Apps available: Unity; Words for Life; CoreScanner; WordCore; WordPower; myCore; VocabPC; MultiChat 15; 4 basic; spelling; basic scan; intermediate scan
- Accessories – switches; eye gaze technology, head tracking, mounts, brackets. External amplifier
- Low tech options of their systems are available

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AbleNet (and others) <https://www.ablenetinc.com/>

- ❖ Specifically target iPads/iPods + communication apps and low tech options
- ❖ Quicktalker Freestyle – iPads/iPods
- ❖ Apps- any app that is associated with iOS (PECS app; GoTalk App, etc.)
- ❖ Low tech options include – single hit message buttons; 2 hit messages, 4 hit messages, their version of a GoTalk; their version of a TechTalker, etc.
- ❖ Accessories – switches, mounts, brackets, keyguards, straps, handles, chargers, etc.

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Pyramid Educational Consultants (PECS) <https://pecsusa.com/pecs/>

- ❖ Specifically no tech option that allows for physical exchange of a sentence strip (opposed to pointing to a communication board)
- ❖ Commonly used with students with Autism
- ❖ Materials – PECS books; Sentence strips, not available images, straps, Velcro, additional pages, Pics for PECS, visual schedules, etc.
- ❖ PECS apps (PECS phase 3 and PECS 4+)

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Other low tech options:

- ❖ Pragmatic Organisation Dynamic Display (PODD)- It is either a book or an app that contains symbols and words.
- ❖ Devices that have overlays and levels – GoTalks (also an app); Tech/Talks, Tech/Scans; etc.
- ❖ One hit message buttons – 2 button one message hits – etc.
- ❖ Textures/objects

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ASHA's stance on AAC and school based SLPs

<https://www.asha.org/practice-portal/professional-issues/augmentative-and-alternative-communication/>

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ASHA - Appropriate roles for school-based SLPs include the following:

- Complete the comprehensive speech-language evaluation.
- Consider student's need for AT, including AAC
- Request, coordinate, or conduct a transdisciplinary AAC evaluation within the student's natural environment and educational setting that includes both the student and their caregiver(s).
- Provide trial periods with AAC systems and collect data.
- Provide a variety of multimodal supports (no-tech/rapid access, low-tech/light-tech, and high-tech) to allow the student to communicate across various environments in the school setting.
- Collaboratively write and implement goals related to speech, language, literacy, participation, and use of AAC as part of the individualized education program (IEP) team.

<https://www.asha.org/practice-portal/professional-issues/augmentative-and-alternative-communication/>

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Appropriate roles for school-based SLPs include the following:

- Ensure that the student's needs are met by others on the evaluation and treatment team.
- Provide initial and ongoing training to teachers, parents, and support staff about AAC and the needs of students who use AAC.
- Participate in IEP meetings.
- Ensure that AAC goals and AAC use are documented in a student's IEP.
- Provide transition support and documentation if AAC is deemed necessary for the student as they exit the school system.

<https://www.asha.org/practice-portal/professional-issues/augmentative-and-alternative-communication/>

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Four Domains of Communicative Competence

– Janice Light Ph.D.

<https://informahealthcare.com/doi/pdf/10.1080/07434618912331275126>

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Communicative Competence

"The proposed definition suggests that communicative competence is a relative and dynamic, interpersonal construct based on functionality of communication, adequacy of communication, and sufficiency of knowledge, judgement, and skill in four interrelated areas:"

4 areas:

- linguistic competence
- operational competence
- social competence
- strategic competence

"Stages of development in AAC Competence," By
Trina Becker MS CCC-SLP
(Speechpathology.com)

<https://informahealthcare.com/doi/pdf/10.1080/07434618912331275126>

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The Four Domains

- linguistic competence –receptive/expressive in language(s) PLUS symbol recognition, meaning, and use.
- operational competence – technical and access skills Examples: orienting the device, flipping pages in a book, turning up/down volume, charging the device/changing batteries, direct selection isolated finger/eye gaze/head mount, etc.
- social competence – social communication skills and pragmatics. Examples: joint attention; turn taking; topic maintenance; etc.
- strategic competence – strategies to overcome barriers that AAC user face – speed of formulating sentence vs. phrase based vs. leaving a commonly used phrase on the message bar instead of deleting it . Etc.

How does this apply?

"Stages of development in AAC Competence," By
Trina Becker MS CCC-SLP
(Speechpathology.com)

<https://informahealthcare.com/doi/pdf/10.1080/07434618912331275126>

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Ability Level Continuum

– Tobii/Dynavox

<http://tdvox.web-downloads.s3.amazonaws.com/MyTobiiDynavox/dag%202%20-%20writable.pdf>

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Stages of AAC Development (TobiiDynavox)

5 levels of AAC Development

<http://tdvox.web-downloads.s3.amazonaws.com/MyTobiiDynavox/dagg%20%20-%20writable.pdf>

- 1) Emergent
- 2) Emergent Transitional
- 3) Context-Dependent
- 4) Transitional independent
- 5) Independent

Each level is defined by the categories of 'understanding' 'expression' 'social interaction' 'literacy skills' and 'other'

ASHA – "Collaboratively write and implement goals related to speech, language, literacy, participation, and use of AAC as part of the individualized education program (IEP) team"

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Emergent stage

- Limited to no understanding of symbols and meanings
- Pictures may or may not help increase understand/express
- May communicate with non-aided communication (body language, gestures, behavior, etc.)
- Performance with AAC may be inconsistent
- Help/skills from student's communication partner are developing.
- May not be interested in books or reading
- Reacts to familiar people; takes turns in familiar routines; may respond to close interaction

<http://tdvox.web-downloads.s3.amazonaws.com/MyTobiiDynavox/dagg%20%20-%20writable.pdf>

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Emergent Transitional Stage

- ❖ Responds to common gestures
- ❖ Shows understand of use of common objects
- ❖ Pictures seem to help increase both understanding and expression
- ❖ Follow simple directions
- ❖ Understanding symbols (common/concrete)
- ❖ One picture messages
- ❖ Shows preference for certain objects/activities/people
- ❖ May show some interest in social interactions
- ❖ Beginning to show interest in shared reading or engaging with books more independently
- ❖ Inconsistent performance with AAC

<http://tdvox.web-downloads.s3.amazonaws.com/MyTobiiDynavox/dagg%20%20-%20writable.pdf>

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Context-Dependent

<http://tdvox.web-downloads.s3.amazonaws.com/MyTobiiDynavox/dagg%202%20-%20writable.pdf>

- ❖ Understands photos/picture symbols
- ❖ Starting to understand more abstract picture symbols (think, big, etc.)
- ❖ Follows simple directions in familiar and unfamiliar routines
- ❖ Understand and follows general conversations
- ❖ Uses a combination of methods to express messages
- ❖ Uses symbols and objects to communicate basic needs and a variety of requests
- ❖ Beginning to comment or ask questions with support
- ❖ Initiates conversations and social interactions with familiar communication partners
- ❖ Literacy skills grow to include ID-ing letters of the alphabet, sound letter recognition, reading high frequency words/site words etc.

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Transitional Independent

- ❖ Understands conversations as well as same age peers
- ❖ Follows simple – complex directions given verbally
- ❖ Communicates a broad range of topics to both familiar and unfamiliar communication partners.
- ❖ Consistently combines 2 or more symbols to create a longer/complex
- ❖ Uses a wide variety of vocabulary
- ❖ Uses socially appropriate comments/questions
- ❖ Appropriately answers routine questions
- ❖ Increased letter-sound awareness, sight words, spelling, word endings (-ed, -s, -ing)
- ❖ Word prediction symbol support

<http://tdvox.web-downloads.s3.amazonaws.com/MyTobiiDynavox/dagg%202%20-%20writable.pdf>

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Independent Stage

- ❖ Understands communication and directions the same as same-age peers
- ❖ Able to expand thought in a conversation
- ❖ Social interaction skills, environments, etc. are the same as same age peers
- ❖ Literacy abilities are same as same-age peers
- ❖ Uses a variety of ways to repair communication breakdowns

<http://tdvox.web-downloads.s3.amazonaws.com/MyTobiiDynavox/dagg%202%20-%20writable.pdf>

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Assessments

Your school may require a permission to evaluate for an AAC Evaluation.

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What information do I need?

- History of the student
- Hearing and vision screening / reports
- Current speech, language, social communication skills
- Environments that the student needs to communicate in
- Vocabulary the student needs to use
- Functions of communication that needs to be increased
- Operational skills of the student
- Strategic skills

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History

- ❖ Diagnosis - to determine treatment (degenerative? Social skills impacted? Vision/hearing impairments?)
- ❖ History of treatment (has the student trialed devices in the past? What happened with the trials? History of speech therapy provided, Etc.)
- ❖ Any significant health concerns (seizures, significant medications/med interactions, etc.)
- ❖ Other language spoken/exposure
- ❖ Any other pertinent history that needs to be included

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Current levels

- ❖ Current service times
- ❖ Current goals
- ❖ How the student learns new information (collaborate with teacher)
- ❖ Challenging behaviors (collaborate with BCBA/Psychologist)
- ❖ Current social communication
- ❖ Motivation to use AAC
- ❖ broader – fine/gross motor skills, typing skills, handwriting skills, discriminations/tracking/scanning skills, reading comprehension, cause and effect, sensory needs, etc. (Collaborate OT/PT/Reading Specialists/Vision Specialists/ Etc.)
- ❖ Bilingual students – level of language and social communication in both

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Environments

- School – classroom, cafeteria, library, hallway, music class, art class, etc.
- Community – restaurants, amusement parks, family vacation, mall, medical, etc.
- Home life – family member's houses, in the kitchen, in the living room, in the bedroom, in the bathroom, group home, etc.
- Vocational- a specific jobsite, a specific volunteer opportunity, day habilitation programs.

Communication happens EVERYWHERE; 24/7!

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Functions of communication

- ❖ Requesting needed/desired items/activities
- ❖ Refusing and rejecting items/activities
- ❖ Requesting attention
- ❖ Labeling and describing
- ❖ Commenting
- ❖ Asking and answering questions (gaining/giving information)
- ❖ Expressing feelings
- ❖ Engaging in social routines
- ❖ Etc.

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Operational abilities

Examples:

- Being able to travel with it (straps/mounts/handles/size)
- Being able to turn it on; enter passwords; select the communication app?
- Being able to charge it (plug it in? charging platform)
- Being able to use swipe features
- Using an isolated finger/stylist/eyegaze (blinking/maintaining eye contact)/smacking a big mac switch, etc.
- So much more

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Successful repair of speech

- Don't forget about speech intelligibility!

Understood by familiar listeners?

By unfamiliar listeners?

How is the student repairing is it successful?

What about the students that are verbal with 1-2 word utterances?

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What assessments can I use?

- ASHA SAYS:

1) Complete the comprehensive speech-language evaluation.
2) Request, coordinate, or conduct a transdisciplinary AAC evaluation within the student's natural environment and educational setting that includes both the student and their caregiver(s).

- SLPS need to:

1) Updated speech-language evaluation – standardized assessments, communication checklists, language sample, Oral Mech, updated hearing/vision, updated history, etc.
2) Evaluation tools specific to the AAC Evaluation process. AAC Genie, AAC Communication Profile, Dynamic AAC Goals Grid-2, communication matrix, Functional Communication Profile –Revised, informal discrimination with objects, vocabulary surveys, classroom observations, etc.

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AAC Genie Hump Software

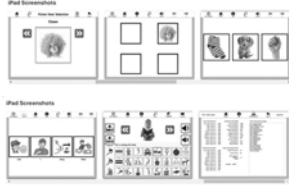


<https://apps.apple.com/us/app/aac-evaluation-genie/id541418407>

AAC Evaluation Genie is an informal diagnostic tool that is intended to assist speech-language pathologists and others with identifying skill areas that relate specifically to the language representation methods commonly found on augmentative communication systems. The purpose of AAC Evaluation Genie is not to identify a particular speech generating device, but rather build a framework for selecting an appropriate augmentative communication device for ongoing evaluation and / or device trial.

There are 13 subtests that can be administered with screening options available for each subtest.

Visual Identification
Visual Discrimination
Noun Vocabulary
Function Vocabulary
Verb Vocabulary
Category Recognition
Word Association
Category Inclusion
Category Exclusion
Core Vocabulary
Unity Icon Patterns
Picture Description
Word Prediction



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Augmentative and Alternative Communication Profile

Created by Tracy M Kovach

Age – 2-0 through adult

Testing time- 60-90 minutes

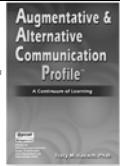
The AAC Profile allows you to:

- identify areas of strength and those that need intervention and instruction
- determine functional, long-range outcomes and the steps toward achieving them
- compare individual performance over time toward desired outcomes
- identify ways that AAC support team members can define and coordinate their roles for intervention and instruction programs
- identify and provide optimal learning environments

Subtests: Uses the Four Domains of Communicative Competence by Janice Light

(Operational, Linguistic, Social, Strategic)

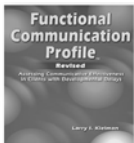
<https://www.proedinc.com/Products/34010/aacp-augmentative-alternative-communication-profile-a-continuum-of-learning.aspx>



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Functional Communication Profile – Revised

- ❖ Ages : 3-0 through adult
- ❖ Time length: 45 to 90 minutes



Descriptions: "The FCP-R yields an overall inventory of the individual's communication abilities, mode of communication (e.g., verbal, sign, nonverbal, augmentative), and degree of independence. Clients are assessed and rated in the major skills categories of communication through direct observation, teacher and caregiver reports and one on one testing. The FCP-R is appropriate for individuals who range between mild and profound deficits."

Subtests: Sensory/Motor; Attentiveness; Receptive language; Expressive Language; Pragmatic/Social Language; Speech; Voice; Oral; Fluency; and Non-Oral Communication.

<https://www.proedinc.com/Products/34040/fcpr-functional-communication-profile-revised.aspx>

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Dynamic AAC Goals Grid -2

<http://tdvox.web-downloads.s3.amazonaws.com/MyTobiiDynavox/dagg%20%20-%20writable.pdf>

Created by Tobii-Dynavox

Primary Objective- Provide a systematic means to assess (and reassess) an individual's current skills in AAC and to assist partners in developing a comprehensive, long-reaching plan for enhancing the AAC user's communicative independence.

Incorporates – Janice Light's Four Domains

SKILLS	ABILITY LEVEL					Notes
	Emergent	Transitional	Context-Dependent	Transitional Independent	Independent	
Understanding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Ability Level 1: Emergent

Understanding

- ☐ Limited or no understanding that symbols (e.g., pictures, words) represent ideas.
- ☐ Pictures may or may not help increase understanding and expression.
- ☐ Difficult to determine how much he/she understands verbally.

Expression

- ☐ May communicate most successfully using facial expression, body language, gestures, and/or behavior (either socially appropriate or inappropriate).

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Vocabulary Surveys

- *likes/dislikes (places the student goes, music the student likes, books that they like to read, etc.)
- *routines – allow you to see what language they may communicate across a normal day
- *age appropriate language – “tubby” vs. “shower”
- *categorical NEEDS to know (family members, pets, doctor's/medical, etc.)
- *Who fills it out? Staff and caregivers. Questions can differ between environments!

A few free resources to get you started:

Enders/McGowan with format and content largely borrowed from questionnaire by Janice Light5/11

<https://www.dropbox.com/s/fpudr0dh0wg6qtn/Vocabulary%20Questionnaire.doc>

Penn State online resource

https://aackids.psu.edu/_userfiles/file/VocabularySelection/index.pdf

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Trick to choose vocabulary - Elizabeth Bortz MS CCC-SLP (PRC rep)

- Determine 2 ore more activities the student enjoys doing
- List out as many vocabulary words that you can assign to that each activity
- circle the vocabulary that is common within each activity – target that vocabulary

Example:

Coloring – crayons, markers, paper, colored pencils, open, close, put away, in, help, color, do, you, me, turn, <specific coloring pages>, <color names>.

Sand play – shovel, open, build, make, put, close, in, help, do, you, me, turn, more, play,

Targets: Open, put, help, do

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Collaboration!!!

- Teachers/paraprofessionals
- Parents/Guardians
- Specialists – OTs, PTs, BCBA/Psychologists, Music Therapists, Vocational, etc.
- AAC product specialists (company reps, etc.)
- Family care providers (PCPS, nurses, social workers, etc. etc.)

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Now to Organize!

- Student centered framework that highlights strengths!
- SETT PROCESS

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SETT Process by Dr. Joy Zabala

- Student – list student's strengths, abilities, interests, areas of instructional concern, areas of need
- Environment – we communicate everywhere – highlight the important places! Describe what the environment looks like.
- Tasks – Describe the gaps between participation and instruction, what tasks are essential
- Tools
 - Using now – describe the current system, indicate what is working, what is not working.
 - To explore- list the features of devices that you wish to explore that match with the students needs listed above (info from student, environment, tasks and currently using)

<https://assistedtechnology.weebly.com/sett-framework.html>

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Case study – high tech - STUDENT

STUDENT

- 12 year 9-month male
- Primary language spoken at school and home is English
- Educational Classification of Autism, Mild intellectual disability
- Significant delay expressive/receptive language.

Communication system at school:

Primarily uses a PECS book at school. He is at phase 4 (adjectives). He is able to use the carrier phrase "I want." He will travel to the book and to the communication partner. Demonstrates difficulty with gaining attention, transitioning with the communication book. Some emerging language skills with verbs.

Secondary he is using behavior communicative actions: Examples include but not limited to: handing over items that needs 'help' or 'want', leading communication partners to a desired activity item, etc.

Communication system at home:

Parents report, at home he will use peca strip if it is something super motivating or if it is an item that he is unfamiliar the location doesn't know where it is at it's too big to carry. Example's given: TV (too big to carry). A toy that is missing.

Typically at home he leading handing item. Example: ♪. Toy that is missing.

- It was noted by both school and home that 'student' will: 1) problems solve if he doesn't have a picture by trying to find a picture that best fits (example: no ♪ picture, use an stick-a-doodle picture that looks similar to a ♪) and 2)
- Primary function of communication – requesting. Both home and school.
- Concerns with current system expressed by parents: Need more 'specific' vocabulary, availability of pictures for in the moment teaching/creating in advance. Ex. If they are in the car and 'student' wants to communicate the desire go somewhere specific.
- 'Student' has some difficulty with accepting new routine items. School example: PECS book change.
- School would like to continue to explore for *functional* for educational purposes and motivation. It was noted that he has interests (Disney channel, beads, etc.) and things he likes (beads, pizza, *quackers*, etc.) they are not necessarily serving the purpose of reinforcement.
- Parents indicated that a potential iPad with his preferred apps would be more reinforcing than a *chartbook* or *smartboard*.

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Case study – high tech - STUDENT

- According to School *Teacher Name*, BCBA, ways to address the behavior of accepting new routine items is to use models, stay neutral but firm, *tag* him out on the behavior.
- The classroom team has introduced a first-then scheduling format for him. He requires some prompting to complete at this time.
- The team also introduced a 'not available' card – card that has a 'not' board maker symbol (0) that allows him to still request preferred items but visually represents that it is not currently available, due to it being 'work time' or there is no more of that item left, etc.)
- According to *Teacher Name*, teacher, 'student' learns new material/skills through the following techniques: Modeling, A physical > gestural > independent prompting strategy when applicable.
- Classroom team indicated that 'student' demonstrates difficulties with concept of 'categories'
- OT unable to attend due to technical difficulties. However, information was provided from 'OT Name', Occupational Therapist Assistant who works with 'student', on 2/1/2021: 'student' is able to tolerate an over the neck strap and/or handle bar from a sensory fine motor aspect. She indicated they would be consider about weight of the device.
- Parents indicated that they would like to use 'student' use a handle. If determined to be an iPad, they have a specific case in mind (parents to provide example of what that looks like).
- 'Student' currently accesses a *Chartbook* and *smartboard* at school. At home he accesses an iPad.
- At school: computer/smartboard are used as a source of reinforcement (music ♪, education (morning meetings, *Boardmaker* activities, etc.), exercise (*GoNoodle*, stretching, yoga, etc.).
- At home – he has access to a regular sized iPad that is primarily used for preferred reinforcement activities (preferred apps – Disney channel, YouTube, Sesame Street, etc.)
- At home, family indicates that 'student' can navigate the technology well. He is able to scroll and tap to activate the screen.
- At school, he is able to access the computer to manipulate YouTube, but demonstrates limited function interest in technology for educational purposes.

Former AAC Evaluations:

AI DuPont Evaluation

AI DuPont Clinical observation: Therapist at AI indicated in report: "student" did not approach or show interest in the device during sessions." Therapist indicated that attention was "fading." It was indicated that 'student' visually attended to models of single icon selection. Prompted to complete fill-ins with variable responses ("want... laundry room").

Recommended – AI DuPont's recommendation was a low tech system such as POGO

Parent input on AI DuPont Evaluation – Parents reported that there was 'no formal evaluation completed.' According to the family, they gave him a device (*Tablet/Smartphone*), provided limited support and how to use the system. They indicated that they were primarily responsible for editing the device with limited instruction on how to use it.

Parent's also wanted to note that 'student' had medical issues at that time which required medical trips to AI. They had a difficult time trying to get him into that same building for a different purpose.

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Case study – high tech - STUDENT

Brennan School Evaluation

2016 Brennan clinical observation:

Access 1000- did not access independently, would stim on device.

Dynavox compass- would make random selections and aimlessly travel through pages. Was difficult to guide for teaching, limited access.

Proloquo2go- attempted to stim. Device was modified to prevent stim. Would access PECS over proloquo. In structured sessions was able to access a more variety of vocabulary.

2016 Brennan Recommendation: proloquo2go be taught in structured situations while maintaining access to the PECS book to slowly transition to a more appropriate system that would support his needs.

2017 Brennan observations:

Proloquo2go- less motivated that year, less independent than PECS, difficult time keeping him from scrolling up and down.

PECS- regression in PECS skills that had been reported on in 2016.

Big Mac – no independent use, but interest in the computer program, deemed non-functional.

Larger PECS posted around the room- quickly picked up exchanging symbols.

GoTalk9- difficulty accessing, difficulty making reliable selections, often hit multiple buttons at once, requires prompts to gain attention.

Modified ASL- required full physical prompting to use a modified ASL sign for help.

Actual shape photo symbols – demonstrated ability to reliably request waffle and pizza using symbols in an array of four.

2017 Brennan Recommendation: PECS training with smaller actual shape photo symbols and symbols posted around the classroom. Continue to explore use of a Voice Output device with static display, key guard features, durability, and ease of transport.

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Case study – high tech – ENVIRONMENT	ENVIRONMENT
<p>*Start basic and fill in</p> <p>Stores and restaurants - *Disney store; season's pizza</p> <p>"all the time" -</p> <p>*when the student comes home from school. *When the student is in the kitchen *when the student is watching T.V. in the living room. Etc.</p>	<p>School - Morning meeting Lunch Vocational work Independent work Rec leisure Gym Group home Bathroom Table top work Group activities</p> <p>Community - Restaurants *Season's pizza Group home Grocery store Park Shopping stores (5 below, target, Disney Store.) family members house</p> <p>Home - 'All the time.' *When student comes home from school *when the student is in the kitchen *when the student is watching TV. In the living room</p>

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Case study – high tech – TASKS	TASKS – what does the student need to do?
<ul style="list-style-type: none"> ❖ Tasks can be broad to start and then fill in more detail – timing and participation. ❖ Great time for collaboration! <p>Morning meeting – increase overall participation, increase ability to answer questions expressively, increase ability to request a break effectively, increase social interactions, etc.</p> <p>OR</p> <p>Morning meeting: increase social interaction – will use device to say "hello" to peers; will use device to state how he is feeling; etc.</p> <p>Cover your 4 domains!</p>	<ul style="list-style-type: none"> • Feelings • Expand expressive language Verbs, question word, adjective, etc. • Increase social interactions • Increase functions communication – requesting, directing action others, question's question, etc. • Ability to advocate for himself- protest; make choices, state personal information, state feelings, etc. • Ability to maintain gaining attention • Staying and waiting for response

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Case study – high tech – Tools – using now	TOOLS – strategies, accommod.
	Using Now
<p>Describe the current tool being used.</p> <p>*What is working? *What is not working? *What are concerns? *What other teaching tools did you use in addition to (maybe they can be added into the technology to explore).</p>	<p>BoardMaker picture symbols and real life photo combination</p> <p>1x1 – 1.25x1.25 - No longer the individual cut out pictures</p> <p>Can discriminate pictures in an array of 10-15 pictures</p> <p>Will often put any random picture on the strip if he doesn't know how to communicate his want (still shows intent to communicate)</p> <p>Using 'I want' sentence starter.</p> <p>*PECS book with sentence strip.</p> <p>*Not available visual" to cue when things are not available to him.</p>

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Identify features

There are several different categories of features to consider:

- Symbol Features
- Linguistic Features
- Voice Features
- Display/Editing Features
- Positioning/Portability
- Operational features
- Access Features

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Identify Features – Symbols

<https://aacommunity.net/ccr/symbols/>

Symbols- “something that stands for or represents something else”
(Vanderheiden & Yoder, 1986)

Symbols do not have to be pictures. They can also be...

Tangible items (shape, texture, consistency – sandpaper vs. cotton balls)

Real objects- tooth brush = tooth brush (identical/similar/partials)

mini objects – doll house items (Shrink wrap – choking hazard!)

Pictures – photos, real pictures, line pictures, cartoons, emoji's, black and white, negative/inverted, etc.

Abstract pictures – Arrow means 'go'

Boardmaker; SymbolStix, Unity Symbols, Pics for PECS, etc.

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Linguistic features

<https://www.aacpdm.org/UserFiles/file/IC2-Marx-22.pdf>

- ❖ Pre-made page sets vs programming everything
- ❖ Complexity of language – age appropriateness ability to change as the student matures
- ❖ Ability to toggle between multiple languages
- ❖ presentation style of language
- ❖ Phrase based vs. Single word – (Gestalt Learner?)



Motor planning – Accent

Sentence prediction/category – NovaChat

Categorical – Proloquo2go

Visual Scene Display with hotspots – Tobii/Dynavox SnapScene

predictive and stored text – proloquo4text

<https://www.mytobiidynavox.com/store/SnapScene>

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Gestalt Language Processor and AAC

- ❖ What is Gestalt Language Processor
 - 'Language development that starts with whole memorized phrases to single words'
- ❖ How to Identify this kind of language learner?
 - Common within the Autism community
 - Student uses a lot of scripts/
- ❖ AAC
 - Little research
 - Modal
 - Use core words
 - Don't rush Grammar
 - Providing full scripts and meaningful pictures on AAC
 - Make it fun

<https://www.assistiveware.com/blog/gestalt-language-processing-aac>
<https://avazapp.com/blog/language-acquisition-gestalt-processing/>

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Voice features

<https://www.aacpdm.org/UserFiles/file/IC2-Marx-22.pdf>

- ❖ Digitized speech – natural speech that is recorded, stored, and reproduced
 - Tips: when determining a voice- same age/gender. Their own voice.
- ❖ Synthesized Speech – electronically produced
 - Accents, Male vs. Female, child vs. adult, silly voices, whisper voices, shouting voices, 'bad guy' voices
 - Go through the voices with the student – determine if they like a particular voice
 - Other things to consider – rate of speech, pitch, volume
 - Note: auditory cueing – partial and whole word

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Visual display

- ❖ Grid display – size of buttons, number of buttons on a page, space between the buttons, background color different than buttons, buttons are color coded. Modified color coding based on the Fitzgerald Key
 - http://www.ntg-inc.com/uploads/3/4/5/4/34545535/colorcodingfitzgerald_ntg_2017.pdf
- ❖ Fonts, text size, borders

Visual scanning aids

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Positioning and portability

Positioning – where is it going to be positioned (mounts), does the positioning need to change based on the activity/time of day. How difficult is device to move to a new position?

For student's using a switch – where is the switch best placed for easy access?

Students may benefit from a slanted stand or completely vertical vs. completely horizontal (glare of screen, overall visual attending, etc.)

How are they transitioning with the device – handle? Strap?

Sensory needs

<https://mountmover.com/sites/default/files/Considerations%20When%20Choosing%20a%20Mounting%20Device.pdf>

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Access features

- ❖ Direct selection
 - Keyguards
 - Stylus
 - Zoom features
 - Touch screen settings (dwell, delay, release)
- ❖ Mouse
 - Head mouse/light pointer
 - Alternative mouse and joysticks
 - Trackball/trackpad
- ❖ Eye Gaze
 - Calibration and camera settings
 - Activation (dwell, blink)
 - Feedback – color, cursor, outline, highlight, etc.
- ❖ Scanning
 - Switch options (button, voice, grip, etc.)
 - Feedback (visual, auditory, combination)
 - Scan method (1 switch vs 2 switches etc.)

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Operational/other features

- ❖ Charging setup
- ❖ Ease of editing
- ❖ Warranty/repair services
- ❖ Technical support
- ❖ Computer interface

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Case study – high tech – Tools – features to explore

- Benefits from real life pictures – camera
- Has some difficulty with discrimination of larger arrays – explore motor planning options
- Starting to combine 2-3 word utterances using verb-object/object-verb – explore sentence predication
- Voice – loud or have external amplifier due to noisy environments
- Participation increase for both creating sentences but also quick fast one hit full phrases
- Portability – handle/strap to travel
- Parents are worried about editing – ease editing

To Explore
Icons – More realistic the better.
Camera feature – real life pictures
Larger squares.
Array – Start with current and move into new?
Grid based, Sliding icons to the strip
Language – 1 hit buttons and phrase based vocabulary
Motor planning options
Voice Volume Portability
Ease editing.

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Case study – high tech – OVERVIEW

STUDENT	ENVIRONMENT	TASKS – what does the student need to do?	TOOLS – strategies, accommodations & tools	Action Plan Step #
<ul style="list-style-type: none"> • 12 year 9 month male • Primary language spoken at school and home is English • Educational Classification of Autism, Mild intellectual disability • Significant delay expressive receptive language <p>Communication systems at school:</p> <p>Primarily uses a PECS book at school. He is at phase 4 (adjective). He is able to use the carrier phrase "I want". He will travel to the book and to the communication partner. Demonstrates difficulty with raising attention, transitioning with the communication book. Some emerging language skills with verbs.</p> <p>Secondary he is using behavior communicative actions. Examples include but not limited to: handing over items that needs 'help' or 'want', leading communication partners to a desired activity item, etc.</p> <p>Communication systems at home:</p> <p>Parents report, at home he will use pecs strip if it is something super motivating or</p>	<p>School -</p> <ul style="list-style-type: none"> • Morning meeting • Lunch • Vocational work • Independent work • Rec leisure • Gym • Group home • Bedrooms • Table top work • Group activities <p>Community -</p> <ul style="list-style-type: none"> • Restaurants • "Season's pizza • Group home • Grocery store • Park • Shopping stores (5 below, target, Dollar Store) <p>family members home</p> <p>Home - "All the time"</p> <p>"When student comes home from school"</p> <p>"When the student is in the kitchen"</p> <p>"When the student is watching TV. In the living room"</p>	<ul style="list-style-type: none"> • Feelings • Expand expressive language • Verbs, question word, adjective, etc. • Increase social interactions • Increase functions communication – requesting, directing action others, question's question, etc. • Ability to advocate for himself: protest, make choice, state personal information, state feelings, etc. • Ability to maintain attention • Staying and waiting for response 	<p>Using New</p> <p>Roundtable picture symbols and real life photo combination</p> <p>1x1 – 1.25x1.25</p> <p>- No longer the individual cut out pictures</p> <p>Can discriminate pictures in an array of 10-15 pictures</p> <p>Will often put any random picture on the strip if he doesn't know how to communicate his want (cell shows intent to communicate)</p> <p>Using "I want" sentence starter.</p> <p>PECS book with sentence strip</p> <p>"Not available visual"</p> <p>To Explore</p> <p>Icons – More realistic the better.</p> <p>Camera feature – real life pictures</p> <p>Larger squares.</p> <p>Array – Start with current and move into new?</p> <p>Grid based, Sliding icons to the strip</p> <p>Language – 1 hit buttons and phrase based vocabulary</p> <p>Motor planning options</p> <p>Voice Volume Portability</p> <p>Ease editing.</p>	To be completed

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Feature matching!

- Feature matching creates a space for clinical decision making rather than making a recommendation based on: the media, public testimony, personal thoughts/opinions, experience/comfort level, well-meaning friends, family, staff, etc..

"Stages of development in AAC Competence," By
Trina Becker MS CCC-SLP
(Speechpathology.com)

- Take the features of devices that you identified and compare them to the currently available systems.

No tech – communication boards, PECS, PODD, alphabet boards, etc.

Low Tech - One message buttons, GoTalks, TechSpeaks, etc.

High Tech – PRC/Salttillo; TobiiDynavox; PECS app, Gotalk App, Proloquo2go

<https://www.aacpdm.org/UserFiles/file/IC2-Marx-22.pdf>

Parent/Guardian training and feedback!

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Back to the case study – let's feature match

Camera- (Most tablets)

Icons – realistic picture/photo symbols when possible (eliminates keyboarding, word based systems)
 Grid based – (eliminates Visual Scene Displays)
 Motor planning – (Maybe Accent with motor planning features)
 Sentence prediction – (maybe NovaChat)
 Volume – (rules out iPod, need a device with a Bluetooth speaker)
 Portability – smaller and light weight (iPad is lighter then dedicated PRC)

Potential trials –

- 1) NovaChat or TouchChat app (sentence structure, attached Bluetooth speaker, grid based, camera, light weight, handle and strap)
- 2) Accent Words for Life app on iPad (motor planning, Bluetooth speaker, grid based, camera, handle/strap, lightweight) "will have to program phrase based options"

To Explore

Icons – ~~More~~ realistic the better.
 Camera feature – real life pictures
 Larger squares.
 Array – Start with current and move into new?
 Grid based,
 Sliding icons to the strip
 Language – 1 hit buttons and phrase based vocabulary
 Motor planning options
 Voice
 Volume
 Portability
 Ease editing.

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Pause to reflect

<https://www.assistiveware.com/learn-aac/presume-competence>

- ❖ HUGE responsibility we have to our students
- ❖ Presume Competence – it makes a huge impact!
 - The choices we make
 - The opportunities we provide
 - The words we give them to access
 - limit the exposure to communicative functions
 - limit exposure to the alphabet and literacy skills

- ❖ Believe in the student's ability to communicate and learn

"least dangerous assumption" (more dangerous to not believe and do nothing)

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When to consider an Evaluation/Re-Evaluation

- ❖ When the current modality is not meeting student needs
 - The student has no current mode of communication
 - The student's current modality is no longer effective (update to technology – features no longer work the same, new features that are better, etc.)
 - Student's vocabulary is too robust for the low tech/no tech modality
 - There is an obstacle(s) that prevents the student from accessing curriculum
 - Student is not accessing the system independently/spontaneously/effectively
 - SLP/Parent/Teacher request
 - Etc.

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Obstacles for young children

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5829791/>

- ❖ There is research to suggest that current technology may place unnecessary limitations on AAC users who are at beginning stages of communication (Light & Drager, 2007)
- ❖ Traditional Grid layouts require visual scanning to find desired info AND may require users to recognize concepts outside of their natural context
- ❖ Typically developing 2- and 3- year olds had minimal success locating vocabulary on a grid display with popular symbol representation (Drager, Light, Curran Speltz, Fallon, and Jeffries (2003))
- ❖ Some research suggests that there are newer developments in AAC technology that could benefit young children with complex communication needs – Visual Scene Displays (Light et al., 2004) (Drager et al. 2003)

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Just-in-time programming

Programming of concepts that happen just as the concepts are needed by the individual to express – Just in time (Schlosser et al., 2016)

A study by Light et al. (2012) suggest that young children with complex communication needs stayed highly engaged during times of just-in-time programming.

Benefits – quick in the moment addition of communication; teaches vocab in natural contexts/environments, limited training compared to other systems.

Important considerations – limited research with a variety of ages and disabilities and limited research longer term.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5829791/>

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Trialing systems

ASHA – “Provide trial periods with AAC systems and collect data.”

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Helpful hint

After you have identified device(s)/system(s) you would like to trial it is helpful to make a timeline or action plan.

Benefits:

- * keeps the entire team accountable for moving forward with the trials process
- * allows for more open conversation with family about what to expect with the process
- * Allows for documentation if caseloads shift mid trial process.

What to put on your action plan: Order of events to occur during the trial process, who's responsibility it falls under, estimated start/end dates (flexible to a degree)

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STUDENT: _____ DATE: _____ COMPLETED BY: _____			
Features to Explore	Device/Application Selection with specifics	Plan for Trials	Comments - Other
See Form B – SETT CHART	1.	Obtained From: Length of Trial: Start Date: End Date: Location of Trials: 1) 2) 3)	
	2]	Obtained From: Length of Trial: Start Date: End Date: Location of Trials: 1) 2) 3)	
	3.	Obtained From: Length of Trial: Start Date: End Date: Location of Trials: 1) 2) 3)	
Follow up Meeting			
Who will attend?	Date?	Other info?	

Adaptation from Joy Zabala Action plan

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Things to consider

- ❖ Signed permission to share information with outside agencies (specifically the device companies and reps)
- ❖ If going through insurance to get the student their own system, you may want to run an insurance benefits check at this time to determine if there is a co-pay or if the insurance company will not cover the device.
- ❖ As soon as you feature match and select trial device options, apply for loaners and schedule them.
- ❖ Your school may require a permission to evaluate for an AAC Evaluation.

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How to obtain a device for trials?

- Through the company
- universities/colleges with speech programs
- State programs
- District fund systems

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Introducing the system

- Start where the child presents and expand quickly
- Start with preferred activities and items
- Use to address IEP goals
- Model and expand!
- Start with therapy sessions?
- Allow Device exploration and babbling

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Data collection

- What kind of data are we looking for?
Remember the domains – linguistic; operational; social; strategic
Remember the Tasks you outlined in your student centered organizational tool (SETT). This should include the IEP goals/objectives
- Create data sheets that measure these targeted tasks.

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Review, Report, Recommend

- Write a report
 - History
 - Current modality – needs the current modality does not meet
 - Data from device trials
 - Recommendations
 - System - features
 - Device -features
 - IEP – goals, strategies, etc.
 - Service times
- Parent involvement
 - Multiple systems work?
 - Multiple companies that support the app
 - Limited parent involvement?

Parent training/parent input

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IDEA about AT

- ❖ **Sec. 300.5 Assistive technology device**
- ❖ Statute/Regs Main » Regulations » Part B » Subpart A » Section 300.5
- ❖ 300.5 Assistive technology device.
- ❖ Assistive technology device means any item, piece of equipment, or product system, whether acquired commercially off the shelf, modified, or customized, that is used to increase, maintain, or improve the functional capabilities of a child with a disability. The term does not include a medical device that is surgically implanted, or the replacement of such device.

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Student/District owned devices

- ❖ If the device/AAC system is found to be educationally necessary and is put into the IEP - it is the district's responsibility to provide an appropriate tool for the student in order to be compliant with the IEP.
- ❖ Some states have programs that funds set aside to help support these costs – Ownership of the device may or may not belong to the district depending on how the funds are sourced.
- ❖ Some states ownership solely belongs to the district. If the student leaves/graduates, the device is returned to the district.
- ❖ You cannot force a family to go through insurance to purchase a device
- ❖ The student has the right to use their insurance to purchase a device – If it goes through insurance the device belongs to the student.
- ❖ If the student has a district owned device it is important that it go with them (home, vacation, etc.).

<https://techowipa.org/news/aac-and-the-iep/>

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Student/District owned devices

- ❖ If a system/device is identified and the family decides to go through insurance to purchase the device, the school is still responsible for covering the need of the system/device until the student owned device arrives.

Positives for going through insurance

- 1) Student owns the device – when graduates, moves, etc.
- 2) Consistency and lack of downtime between settings (if moved, etc.)
- 3) practice using their own system
- 4) support from the agencies - companies have tech support and company representatives to support
- 5) More exposure for parents and caregivers to become independent using these resources

<https://techowlpa.org/news/aac-and-the-iep/>

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Purchasing through insurance

Parent training/parent input

- Insurance cards – front and back
- Doctor script and information – medical necessity
- Report with trials and data
- Recommendations supported by data
- Your information (CCC's and State license)
- Representatives of device companies general have support, templates, etc.
- What if it is denied?

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Additional purchasing options

- ❖ Community resources (churches, local organizations,
- ❖ Non-profit funding (wish lists, charity funds)
- ❖ School – fundraiser, donations, etc.
- ❖ Private funding
- ❖ Local/state organizations for developmental disabilities or local/state organizations that re-home abandon/old/ etc. devices. (older models/generations)
- ❖ Grants

Pro-tip: Some apps go on sale in the month of October due to AAC Awareness.

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Nothing 'worked'...

- ❖ Completed your trials and nothing seems to be appropriate. Now what?
- ❖ Did you have enough time with the systems?
- ❖ Still create a report. Write up your findings. Data still provides you information!
- ❖ Recommendations could mean to reconvene as a team and update the SETT to determine:
 - if you need to spend more time with a system
 - determine if new features are appropriate
 - create goals that will support AAC in the future (cause and effect, making a selection, etc.)

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IEP and Goal considerations

ASHA- "Collaboratively write and implement goals related to speech, language, literacy, participation, and use of AAC as part of the individualized education program (IEP) team."

"Ensure that AAC goals and AAC use are documented in a student's IEP."

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Mark and add AAC into the IEP

- ❖ Click any boxes that indicate that the student needs Assistive technology supports and services.
- ❖ The system should be describe within the IEP (look back on your features that helped you guide you to the chosen device). DO NOT NAME ACTUAL DEVICES OR SYSTEMS.

Example: Portable device with touchscreen capabilities instead of 'iPad'

Why? To keep complaint with the IEP

<https://practicalaac.org/practical/how-i-do-it-aac-in-the-iep/>

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Goals

Things to consider

- Goals for AAC users require the same components to writing a good goal
- Tie your goals to assessments and data
 - AAC Profile by Tracy Kovach 4 domains – language goals; operational goals; social goals; strategic goals
 - DAGG-2 – ability level continuum - what goals can we make to get them to the next stage
 - Communication matrix – functions of communication
- Priority of need
- Parent/Caregiver input
- Student input

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The Dynamic AAC Goals Grid – 2 (DAGG-2)

- ❖ After the assessment portion the DAGG does provide you with potential goals related to what stage they are in and what domain you wish to target.
- ❖ Goal bank for possible ideas
- ❖ Gives cues/mastery tracking for tracking long term practice
- ❖ Also provide blank organizational charts for long and short term goals

Operational Competency - Continued

Ability Levels	Goals	Chain of Cues
Transitional	Recognizes the need for additional topics or vocabulary in system and is beginning to actively participate in programming or in the process of programming (e.g., selects edit/modify button).	EC
Independent		EC

<http://tdvox.web-downloads.s3.amazonaws.com/MyTobiDynavox/dagg%20-%20-%20writable.pdf>

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Service delivery considerations

- Consider adding/increasing consultation time - give yourself time to program systems and collaborate!
- Change frequency – what does the student now need with the new recommendations to make progress
- Push-in vs pull-out

<https://www.understood.org/en/articles/the-difference-between-push-in-and-pull-out-services>

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	Push-in services	Pull-out services
Pros	<ul style="list-style-type: none"> Students miss less instructional time Less disruption to student's daily schedule Direct interaction between all of the team members builds collaboration and in the moment problem solving. Teachers can see the success Generalization 	<ul style="list-style-type: none"> Student gets more direct instruction Fewer distractions Can promote more personalized interactions and could aid in building rapport Not as much time building lesson plans with teachers (time-schedules)
Cons	<ul style="list-style-type: none"> Students get less tailored individual instruction Planning time (time-schedules) More opportunities for distractions during session <p>https://www.understood.org/en/articles/the-difference-between-push-in-and-pull-out-services</p>	<ul style="list-style-type: none"> Less opportunity for collaboration Student's may feel 'different' or uncomfortable to leave for speech Create more scheduling difficulties

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Comparison of Service Delivery Models

Throneburg et. Al (2000) .

Compared 3 models

- 1) Traditional pull-out model
- 2) Classroom-based model with no collaboration
- 3) A classroom-based model with collaboration

Findings:

- 1) Co-teaching model can result in improved language gains (curriculum)
- 2) Whatever service model you are providing, it will be more effective with collaboration from teachers.

<https://pubs.asha.org/doi/10.1044/1058-0360.0901.10>

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Collaboration

ASHA – “Ensure that the student’s needs are met by others on the evaluation and treatment team.”

“Provide initial and ongoing training to teachers, parents, and support staff about AAC and the needs of students who use AAC.”

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Collaboration

<https://www.nclld.org/reports-studies/forward-together-2021/collaboration/>

Collaboration is when general educators, special educators, learning specialists, administrators, etc. work together to meet the needs of the students. (National Center for Learning Disabilities)

Why? It ensures practices are consistent across providers which will ensure better outcomes for the student.

"The average 18-month-old has been exposed to 4,380 hours of oral language at a rate of 8 hours/day from birth. A child who has a communication system (AAC) and receives speech/language therapy 2 times/week for 20-30 minutes will reach the same amount of language exposure (in their AAC language) in 84 years." - Jane Korsten, SLP

[https://www.assistiveware.com/blog/dos-and-donts-aac-use-aac-system/#:~:text=The%20average%2018%2Dmonth%2Dold,AAC%20language\)%20in%2084%20years.](https://www.assistiveware.com/blog/dos-and-donts-aac-use-aac-system/#:~:text=The%20average%2018%2Dmonth%2Dold,AAC%20language)%20in%2084%20years.)

Insight from COVID-19

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Collaboration

<https://www.nclld.org/reports-studies/forward-together-2021/collaboration/>

Skills for Effective Collaboration:

Preparedness

- Identify a facilitator or meeting 'leader.' (can rotate): bring up topics on the agenda, steer conversation to topic.
- Establish a minute taker
- Establish a time keeper
- Set up an agenda in advance (google drive)

Active listening

- Be present. No phones, email, lap paper work, etc. - focus on the conversation
- Allow for others to finish thoughts (not thinking about response)
- Ask follow up questions

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Collaboration

<https://www.nclld.org/reports-studies/forward-together-2021/collaboration/>

Summarize

- As you listening during natural opportunities, summarize what you have heard (thought you have understood)
- Upon closing the meeting recap action plan, due dates, etc.
- Keep minutes in a shared area, or make them available to all parties.

Ask Questions- approach with an inquiry mindset, ask open ended questions and questions to help clarify meaning.

Deliver – ideas and solutions with evidence (push in opportunities here to provide direct carry over and modeling)

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Collaboration

<https://www.ncld.org/reports-studies/forward-together-2021/collaboration/>

Integrating

- Take the information that your colleague's are sharing and create actionable solutions
- Take the information and feedback to strength your ideas.

Empathizing

- Assume positive intent of others
- Ensure everyone's voice is equally heard and that everyone has the opportunity to contribute.

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Challenges you may face

- 1) Lack of education
- 2) Lack of training
- 3) Inaccessible environment
- 4) Lack of funding
- 5) Lack of therapist and time
- 6) Poor understanding of the communication rights of our students
- 7) Resistance by Staff
- 8) Differing priorities

"Stages of development in AAC Competence," By
Trina Becker MS CCC-SLP
(Speechpathology.com)

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Training continues

- ❖ Parent and staff trainings will need to continue after a system is selected
- ❖ Difficult time with creating and capitalizing on communication opportunities
- ❖ Strategies and teaching approaches may vary depending on the skill being taught – relayed to the IEP team (parents and staff)
- ❖ How to edit and use important features to allow the student to be successful
- ❖ How to work with the company (broken, troubleshooting, additional supports, etc.)

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Helpful fliers and handouts

- ❖ Communication rights
- ❖ 'do's and don'ts of AAC'
- ❖ 'AAC boot camp'
- ❖ Prompting procedures
- ❖ Navigation sequences
- ❖ Editing steps
- ❖ Simplified data sheets (transfer over)
- ❖ etc.

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Stimming or “playing” with the device

- ❖ Repetition and exploration are part of learning language.
- ❖ You cannot take the device away, or turn the volume down
- ❖ Introduce a 'time to talk'
- ❖ AAC Babbling
 - Exploring the system
 - Experimenting with sounds
 - Experimenting with social interactions
 - To practice
 - Help memorize locations
 - Helps recognize sound patterns


<https://practicalaac.org/practical/stimming-or-learning-considerations-for-kids-who-repeat-themselves-with-aac/>

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Seeing is believing

- ❖ Show the success of the student
- ❖ Show the staff/family how it not only benefits the student but the communication partners
- ❖ Graph your data
- ❖ Celebrate the small victories together!

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Intervention

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Visual supports

- ❖ Everyone benefits from visual supports (including us)
- ❖ Visual supports can increase the exposure to language
- ❖ Visual schedules
 - To state agenda – used to transition
 - To show order and sequence – multi-step
 - Establish expectations/boundaries

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Modeling

- ❖ One of the most valuable strategies we can use for AAC learners
- ❖ It allows the AAC learner to see what it looks like to communicate using their AAC system
- ❖ All team members should model
- ❖ You can model anytime and anywhere
- ❖ You need to model as often as you can!

How many words to model?

- base on student's current level
- use shaping and expansion and breakdown language intervention strategies
- focus your modeling (it doesn't have to be grammatical)

<https://www.assistiveware.com/learn-aac/start-modeling>

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Things to keep in mind while modeling

- ❖ Don't model every word
- ❖ Making mistakes while modeling
- ❖ "The AAC user isn't looking"
- ❖ AAC users do not respond
- ❖ Stuck in request
- ❖ Repeat/copy me
- ❖ One model is never enough

<https://www.assistiveware.com/learn-aac/start-modeling>

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Expansions and Extensions – Example

Expansions/extensions – repeating what the user said in a way that improves their utterance.

Ways to expand:

- *increasing length of utterance
- *creating exposure to better sentence/syntactical structure
- *adding/Changing grammatical endings (morphemes)

<https://practicalaac.org/strategy/language-facilitation-strategies/>

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Expansions and Extensions – Example

Student K. – loves pets

K. Utterance - "Mr. Caleb cat"

Expansion - "Mr. Caleb have cat" or "look Mr. Caleb cat"

<model, model, increasing steps towards independence>

K. new utterance - "Look Mr. Caleb Cat"

Expansion - "Can I look Mr. Caleb cat?"

Repeat!

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Recasts through AAC

Recast – language technique in which the learner’s utterance is repeated with the correct intention. Usually the correction is emphasized. The learner is never required to repeat the correct way.

Student utterance- “ I cracker eat”

Recast – “I EAT cracker”

Student utterance – “I go to the mall”

Recast – “I WENT to the mall”

<https://practicalaac.org/strategy/language-facilitation-strategies/>

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Chaining- forward and backward

Chaining is an instructional strategy based on task analysis that looks at every step within the total steps to complete a task. (ABA)

- * Write down each step of the task
- * Watch The person complete the task
- * Write down the steps of the task they can complete independently/prompting
- * Decide what chaining you will need

Backward chaining - Prompting through the task, working on creating teaching and fostering independence from the end of the task. (end task to beginning)

Forward chaining – Teaches and fosters independence from the beginning and prompt the following steps (beginning to end)

<https://www.unl.edu/asdnetwork/virtual-strategies/chaining>

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How does it relate to AAC?

- ❖ We chain all the time in communication – With AAC it is the sequence

Example: Student really likes ‘pizza’

Target Chain – food icon > lunch icon > pizza icon

Forward chaining

Target 1– food* (model lunch and pizza)

Target 2– food + Lunch* (model pizza)

Target 3 – Food + Lunch + pizza*

Backward chaining

Target 1- (model food, lunch) Pizza*

Target 2- (model food) lunch*, Pizza

Target 3- Food*, lunch, pizza

Acknowledgement to the
Brennen School

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AAC and Literacy

Why work on Literacy when the student can't communicate their basic preferences?

- 1) The longer you wait to teach it, the longer it will take to learn
- 2) It offers opportunities to build communication skills
- 3) When people see you reading and writing, it changes their perception of the student and ability to learn and receive instruction
- 4) There are mandates for us to address general education curriculum
- 5) They will enjoy it

<https://praacticalaac.org/strategy/literacy-lessons-for-beginning-aac-learners/>

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Literacy and AAC

"Predictability builds understanding. Understand promotes engagement, enjoyment, and achievement."

Use your literacy intervention skills with AAC

- * Talking about the pictures in the book
- * Making predictions about what might happen next
- * story songs
- * repeated lines and choral reading
- * Letter hunting

<https://talksense.weebly.com/literacy-and-aac.html>

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Additional cool features to know

- ❖ In device data collection features
- ❖ Many devices have a "find the word" feature
- ❖ Ability for student to access T.V. remote, email, etc.
- ❖ Apple products have a 'guided access' mode that allows the user to be locked into a particular app.

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